

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Implementation of Section 309(j) and 337)	WT Docket No. 99-87
Of the Communications Act of 1934)	
as Amended)	
)	
Promotion of Spectrum Efficient Technologies)	
on Certain Part 90 Frequencies)	

To: The Commission

**REQUEST FOR CLARIFICATION, OR IN THE ALTERNATIVE,
REQUEST FOR RECONSIDERATION**

IPMobileNet, Inc. (“IPMobileNet” or “Company”), by its attorneys and pursuant to Section 1.429 of the Federal Communications Commission (“FCC” or “Commission”) Rules and Regulations, respectfully requests the FCC to clarify or reconsider one aspect of its recent decision in the above-identified proceeding.¹ Specifically, the Company asks that the Commission clarify or amend newly adopted Rule Section 90.209(b)(6) to provide for the acceptance of applications that request a bandwidth exceeding 11.25 kHz, provided that the application satisfies the spectrum efficiency standard set out in FCC Rule Section 90.203(j)(5).² In support of this request, the following information is provided:

I. INTRODUCTION

IPMobileNet is a manufacturer and distributor of wireless data and next generation voice over IP and data networking systems, primarily for the private land mobile radio (“PLMR”) user

¹ See WT Docket No. 99-87, *Second Report and Order and Second Further Notice of Proposed Rule Making*, FCC 03-34 (rel. Feb. 25, 2003) (“2nd R&O”).

² New FCC Rule Section 90.203(j)(10) also should be amended to reference the alternative efficiency standards in FCC Rule Section 90.203(j)(5).

community. IPMobilenet's largest customer base are public safety agencies, which include among many others, the Los Angeles County Sheriff's Department, Detroit Police Department, Wisconsin State Patrol and the State of Utah. Its products facilitate the convergence of wireless mobile voice and data communications with the Internet. Its patented Intelligent Diversity Reception™ technology, combined with voice over Internet protocol, provides a highly reliable open architecture for IP voice and data networking. Its time division multiplex access system operates with up to four simultaneous voice over IP connections, 19.2 kbps data transmissions, or a combination of both voice and data over a single 25 kHz channel and can be used in the 150 MHz, 450 MHz and 800 MHz bands. The Company believes its products fill an important niche for PLMR users, as usable land mobile spectrum becomes increasingly scarce, thereby heightening the need for improved efficiency on existing spectrum resources.

Because IPMobileNet's current mobile data technology transmits on the equivalent of four voice paths in a 25 kHz bandwidth channel, or 19.2 kbps, it satisfies the previously established spectrum efficiency equivalency standard for data systems in these bands. Based on the rules adopted over almost a ten-year period, the Company has been working with a number of PLMR users on the design, implementation or expansion of highly efficient mobile data networks using 150 MHz and 450 MHz spectrum. Several of its customers, including the States of Utah and Wisconsin, are governmental entities that are in the process of deploying and testing extensive mobile data systems that will be used for a variety of mission critical public safety functions. Their ability to do so may be impacted directly by the adoption of FCC Rule Section 90.209(b)(6) which could be interpreted to prohibit the filing of applications for systems using

this IPMobileNet technology, a result that would be entirely inconsistent with previously adopted FCC Rule Section 90.203(j)(5).³

II. THE FCC SHOULD CLARIFY OR RECONSIDER AND MODIFY FCC RULE SECTION 90.209(b)(6) TO INCORPORATE THE SPECTRUM EFFICIENCY PROVISIONS OF FCC RULE SECTION 90.203(j)(5).

A. Background

The 2nd R&O is the most recent Commission decision in its more than decade-long effort to “refarm” the PLMR bands below 512 MHz.⁴ Although this initiative generally relied on a migration to narrowband technologies to achieve more intensive spectrum utilization, the Commission recognized that alternative technological approaches might achieve the same result and better suit the requirements of particular PLMR users:

The rules we adopt today establish a new channelling plan and provide technical flexibility which will enable private wireless users to make equipment investment decisions to accommodate their diverse needs.⁵

Thus, while the channelization plan for these bands was premised on users converting to narrower channel bandwidths, from the outset the FCC acknowledged that certain advanced technologies would require 25 kHz bandwidth channels to achieve comparably efficient operations:

We establish a narrowband channel plan based on current channel centers. Technology that provides either narrowband or the equivalent efficiency will be allowed. We allow the flexibility of aggregating up to the equivalent of 4 NB channels provided that spectrum-efficient technology is employed (e.g. 4-TDMA in 25 kHz). This approach will enable users to employ the most spectrally-efficient technology available, while causing the least disruption to their own and other existing operations. This channeling plan establishes a channelization

³ The Company filed a Motion for Stay in respect to this same matter on August 11, 2003 in which it requested the FCC to stay the effectiveness of FCC Rule Section 90.209(b)(6) until it acts on the instant Petition or modifies the rule on its own motion consistent with the positions described herein (“Stay Request”).

⁴ The specific channels under consideration are the PLMR bands in the 150-174 MHz and the 421-512 MHz range.

⁵ PR Docket No. 92-235, *Report and Order and Further Notice of Proposed Rule Making*, 10 FCC Rcd 10076 at ¶ 1 (1995) (“Refarming R&O”).

framework that is flexible, technology-neutral, and can easily be adapted to user fees or competitive bidding, if authority to use these mechanisms is obtained.⁶

It further explained its spectrum efficiency standard, including its standard for data systems, as follows:

In accordance with the transition dates for equipment in the 150-174 MHz VHF and 421-512 MHz UHF bands, we are adopting a spectrum efficiency standard of one voice channel per 12.5 kHz of channel bandwidth for equipment type accepted after August 1, 1996, and a spectrum efficiency standard of one voice channel per 6.25 kHz for equipment type accepted after January 1, 2005. Additionally, after August 1, 1996, equipment designed for data operation that uses more than a 6.25 kHz channel bandwidth, must meet a minimum efficiency standard of at least 0.768 bits per second per Hertz.¹⁶⁸ At the chosen standard of 0.768 bps/Hz, the 6.25 kHz equipment will have a data rate of 4800 bps, and the 12.5 kHz equipment will have a data rate of 9600 bps. These are standard data rates. Based on the comments, we believe that this standard is readily attainable. This standard will be incorporated into the type acceptance process by having equipment manufacturers certify as part of their application for type acceptance that their equipment meets the spectrum efficiency standard. Therefore, licensees and new applicants would be assured that any equipment they purchase would comply with the spectrum efficiency standard.⁷

This decision was codified in FCC Rule Section 90.203(j)(5) almost ten years ago, and has not been revisited since that Order was adopted, except as described herein.

The instant 2nd R&O, whether inadvertently or intentionally, could be interpreted to revoke the effectiveness of this spectrum efficiency alternative by adopting FCC Rule Section 90.209(b)(6) which states the following:

No new applications for the 150-174 MHz and/or 421-512 MHz bands will be acceptable for filing if the applicant utilizes channels with a bandwidth exceeding 11.25 kHz beginning [six months after publication in the FEDERAL REGISTER]. For stations licensed or applied for prior to [six months after publication in the FEDERAL REGISTER], the licensee may transfer, assign, renew and modify the authorization consistent with the current rules. No modification applications for stations in the 150-174 MHz and/or 421-512 MHz bands that increase the station's authorized interference contour will be acceptable for filing if the applicant utilizes channels with a bandwidth exceeding 11.25 kHz, beginning [six months after publication in the FEDERAL REGISTER]. See

⁶ *Id.* at ¶ 7 (footnote omitted).

⁷ *Id.* at ¶ 97.

§90.187(b)(2)(iii) and (iv) of this chapter for interference contour designations and calculations. Applications submitted pursuant to this paragraph must comply with frequency coordination requirements of §90.175 of this chapter.⁸

This rule could be read to prevent entities such as the States of Utah and Wisconsin, as well as other IPMobileNet customers and the customers of suppliers of other, equally efficient data equipment, from submitting applications for new or modified stations since such filings necessarily would request bandwidths greater than 11.25 kHz. The rule provides no exception for applicants proposing to make the alternative showing set out in FCC Rule Section 90.203(j)(5). Of course applicants could seek waiver relief on an individual case-by-case basis. However, the need to do so unquestionably would have a chilling effect on prospective users because of the time, cost and uncertainty involved. Moreover, retention of the rule in its current form seemingly would indicate an FCC intent to eliminate the alternative showing, irrespective of the efficiency of the proposed system.

For the reasons detailed *infra*, the Company urges the Commission to address this matter either by clarifying that FCC Rule Section 90.209(b)(6) was intended to include a reference to the alternative efficiency standard codified in FCC Rule Section 90.203(j)(5) or by reconsidering and revising it to accomplish that same result.

B. The Public Interest Would be Served by Permitting Deployment of Highly Efficient Mobile Data Systems.

The Commission has described its objective in this and the earlier refarming proceeding as follows: “promote highly effective and efficient use of the PLMR spectrum and facilitate the introduction of advanced technologies into the private mobile services.”⁹ At the time the refarming initiative began, the implementation of narrowband equipment, defined generally as

⁸ 47 C.F.R. § 90.209(b)(6). The six-month deadline subsequently was announced in the Federal Register to be January 13, 2004. *See* 68 FR 42296 (2003).

⁹ Refarming R&O at ¶ 1.

that with bandwidths of 12.5 kHz or less, was viewed as the optimal approach for achieving greater spectrum efficiency in these heavily populated bands.¹⁰ Even then, however, the FCC recognized that technologies other than narrowband might yield comparable spectral efficiencies and be better suited for the particular communications needs of certain users. It was on that basis that it adopted the alternative efficiency standard set out in FCC Rule Section 90.203(j)(5).

The Commission reaffirmed that standard on reconsideration the following year:

In the R&O, we adopted spectrum efficiency standards for newly type accepted equipment at each transition date. Specifically, we require at least one voice channel per 12.5 kHz of channel bandwidth for equipment type accepted after August 1, 1996, and at least one voice channel per 6.25 kHz of channel bandwidth for equipment type accepted after January 1, 2005. Additionally, after August 1, 1996, equipment designed for data operation must be capable of supporting a minimum data rate of 4800 bits per second per 6.25 kHz of bandwidth.¹¹

The Commission also has referenced the standard in various other rule making proceedings:

We nonetheless take this opportunity to reiterate and expound upon the determinations that we have made regarding operations on the 700 MHz band General Use channels. First, we note that we established a standard channel bandwidth of 6.25 kHz for all narrowband segments of the 700 MHz band (which includes both General Use and Interoperability channels). In this connection, consistent with our approach in the Refarming proceeding, we adopted a data rate efficiency (channel efficiency standard) of 4.8 kbps for narrowband channels. We also indicated that 6.25 kHz channels could be combined to create 12.5 kHz and 25 kHz channels, provided that a spectrum use efficiency of 4.8 kbps is maintained.¹²

We desire to encourage new and innovative efficient technologies to benefit users of this band and the public. Therefore, as we did in our recently adopted Refarming Reconsideration Order, we will provide manufacturers with additional flexibility to design spectrally efficient transmitters. Manufacturers may obtain type acceptance for equipment that does not meet the voice or data efficiency standard if: (1) the manufacturer submits a technical analysis with its application for type acceptance demonstrating that the equipment will provide more spectral efficiency than that which would be provided by use of the voice or data

¹⁰ Since then, the FCC has come to recognize the efficiencies of broadband and even spread spectrum techniques – technologies that are vastly different than the narrowband approach adopted for the refarmed bands.

¹¹ PR Docket No. 92-235, *Memorandum Opinion and Order*, 12 FCC Rcd 17,676 at ¶ 19 (1996) (footnote omitted).

¹² WT Docket No. 96-86, *Fourth Report And Order And Fifth Notice Of Proposed Rule Making*, 16 FCC Rcd 2020 ¶ 82 (2001) *citing* WT Docket No. 96-86, *First Report and Order*, 14 FCC Rcd 152, 172-173 ¶¶ 37-38 (1998).

efficiency standard; and (2) this technical analysis is deemed to be satisfactory by the Commission's Equipment Authorization Division. Licensees may employ equipment that does not meet the spectrum efficiency standard only if such equipment has been type accepted in this manner.¹³

Indeed, it even referenced the standard in footnote 6 in the instant 2nd R&O which states, in pertinent part:

...we note that the Commission, in the Refarming R&O and FNPRM, stated that narrowband or NB refers to channel spacings of 7.5 kHz in the VHF PLMR band and 6.25 kHz in the UHF PLMR bands....In that connection, the Commission added NB technology or NB equipment will include all advanced technologies designed to operate with channel bandwidths of 6.25 kHz or less or equipment with 6.25 kHz equivalent efficient such as TDMA (2 channels in 12.5 kHz or 4 channels in 25 kHz).¹⁴

Thus, throughout the course of the refarming proceedings, the FCC repeatedly has noted that licensees and manufacturers should have the ability to deploy innovative technologies as long as they satisfy a defined level of spectrum efficiency. Although adopted almost a decade ago, that commitment to maximum technical flexibility, conditioned on achieving reasonable efficiency levels, is consistent with the Commission's current regulatory posture as described in numerous proceedings including, but not limited to, the rule makings cited above and the Spectrum Policy Task Force report.¹⁵

The prescience of that spectrum management approach has been confirmed by the efficiency achievements experienced by IPMobileNet's customers, even in its current technology iteration. For example, a data system such as the Company's operating at 19.2 kbps in a 25 kHz voice channel can be viewed as more than 200 times as spectrally efficient as a 12.5 kHz voice channel for typical dispatch operations. Based on IPMobileNet's informal surveys of a number of public safety agencies, the average airtime to transmit a dispatch call, including officer read

¹³ PR Docket No. 89-552, *Third Report And Order; Fifth Notice Of Proposed Rulemaking*, 12 FCC Rcd 10943 ¶ 118 (1997) (footnotes omitted).

¹⁴ 2nd R&O at n. 6.

backs, is 45 seconds. This assumes, of course, that the information is transmitted correctly and understood accurately the first time and does not need to be repeated. The same dispatch call when transmitted in a data system at 19.2 kbps uses only approximately 200 bytes of airtime. At 19.2 kbps, this translates to 80 milliseconds. Obviously, a far greater number of units can utilize a single 25 kHz data channel operating with these data speeds than could be accommodated on two 12.5 kHz voice channels.

This is not to say that data systems are always superior to voice. There are numerous variables that need to be considered, including the unique communications needs of each user. However, it does confirm that data systems can be highly efficient and should continue to be one of the options available to PLMR users in these bands if the FCC's objective is to be satisfied.

C. The Effective Elimination in the 2nd R&O of the Spectrum Efficiency Alternative Codified in FCC Rule Section 90.203(j)(5) Would Violate the Administrative Procedure Act.

IPMobileNet believes that the 2nd R&O's failure to reference the alternative efficiency showing in new Section 90.209(b)(6) was inadvertent, and not an intentional decision to prevent applicants from electing to deploy highly efficient data systems. That assumption is based both on the Commission's ongoing commitment to promoting advanced technologies and licensee flexibility and on the fact that any attempt to modify or eliminate the standard in the 2nd R&O would be in violation of the Administrative Procedure Act (APA)¹⁵ since no such change was proposed in the associated Notice of Proposed Rule Making.¹⁷ Indeed, to the contrary, the single reference in the BBA FNPRM to the alternative efficiency showing specifically reaffirmed its effectiveness:

¹⁵ Spectrum Policy Task Force Report, ET Docket No. 02-135 (rel. Nov. 25, 2002).

¹⁶ 5 U.S.C. § 553(b)(3).

¹⁷ See WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rule Making*, 15 FCC Rcd 22,709 (1999) ("BBA FNPRM").

We also certify new equipment with a maximum bandwidth of 25 kHz if it meets the efficiency standards set forth in 47 C.F.R. § 90.203(j)(3).¹⁸

If the Commission intended to render inutile previously adopted FCC Rule Section 90.203(j)(5) by disallowing the acceptance of applications proposing systems with greater than 12.5 kHz bandwidths, it was required by the APA to so advise the public and invite comment on this change. There is no question but that this rule has a substantive, not procedural, impact. It directly affects the radio systems applicants may operate and, thus, the equipment manufacturers may sell. Therefore, it is subject to the APA requirement that an administrative agency must provide notice of a proposed rule that includes either the terms or substance of the proposal or a description of the subjects and issues involved.¹⁹ Notice is required precisely so that interested parties such as IPMobileNet have an opportunity to participate in the FCC's decision making process through the submission of written or oral comments.²⁰ No such notice was provided in the BBA FNPRM. Since the Company is confident that the FCC did not intend to circumvent the APA in enacting this rule, it assumes that the language of new FCC Rule Section 90.209(b)(6) inadvertently failed to incorporate provisions for applications that satisfy the requirements of FCC Rule Section 90.203(j)(5) and should be clarified or corrected accordingly.

III. CONCLUSION

The FCC has determined on numerous occasions that the public interest is served by allowing PLMR users flexibility in their equipment choices, provided that their selections satisfy technical requirements, in some cases including efficiency standards, established by the FCC.²¹ That flexibility will be sacrificed without any countervailing public policy benefit if FCC Rule Section 90.209(b)(6) prevents applicants from selecting alternative, equally or even more

¹⁸ *Id.* at n. 383.

¹⁹ *See, e.g.,* CC Docket No. 92-115, *Order*, 10 FCC Rcd 4146 (1995).

²⁰ 5 U.S.C. § 553(c).

efficient mobile data technologies to satisfy their increasingly complex communications requirements. For the reasons described herein, IPMobileNet respectfully requests the FCC to proceed expeditiously to clarify or modify FCC Rule Section 90.209(b)(6) to permit the acceptance of applications that meet the efficiency requirements of FCC Rule Section 90.203(j)(5).

Respectfully Submitted,

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Date: August 18, 2003

²¹ See, e.g., n. 12 and n. 13 *supra*.

CERTIFICATE OF SERVICE

I, Linda J. Evans, J. Evans, a secretary in the law office of Lukas, Nace, Gutierrez & Sachs, hereby certify that I have, on this August 18, 2003 caused to be mailed, first-class, postage prepaid, a copy of the foregoing Request for Clarification, or in the Alternative, Request for Reconsideration to the following:

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